



Academic Programme 2018-2019
Software Engineering and Statistics

Semester 5

Course	Lec.	LwT	Tut.	Prac.	Project	Student Hours	ECTS Credits	Code
Unit 5-1 Fundamentals of Mathematics						114	8	
Mathematical Structures	24		22			46	3,5	111110
Probabilities 1	20		24	4		48	3,5	111220
Mathematics		20				20	1	111230
Unit 5-2 Fundamentals of Computing 1						150	12	
Algorithmics and Programming	15		22	23	8	68	5	111120
Computer architecture	10		10			20	1,5	111190
Databases and Data modelling	9	3	8	13	7	40	4	111320
Database project				22		22	1,5	111321
Algorithmics and programming (Remediation)					24		0	111331
Unit 5-3 Economics, Soft Skills						96	7	
Sport					22	22	1	111023
Career Planning			10			10	1	111051
Management accounting	14					14	1,25	111054
Economic Environment	12		8			20	1,5	111160
Marketing	10		10			20	1,5	111170
Corporate Communication			10			10	0,75	112052
Unit 5-4 Languages						44	3	
Second language								
-> German			20			20	1	111012
-> Spanish			20			20	1	111013
-> French			20			20	1	111014
English			24			24	2	111011
Remedial English			14			14	0	111961
Total :						404	30	

Lect. : Lecture

LwT : Lecture with Tutorial

Tut. : Tutorial

Prac. : Practical

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	Student Hours	ECTS Credits	Code
Unit 6-1 Applied Mathematics						162	12	
Statistical Inference	22		14	12		48	3,5	112240
Probabilities 2	10		10	4		24	1,75	112250
Numerical calculus	20		10		10	40	3	112260
Graph theory and Combinatorial Analysis	16		14			30	2,25	112310
Linear regression	8			12		20	1,5	112911
Mathematics - Remedial course		24					0	112921
Unit 6-2 Computing						140	11	
Graph Programming Project Work				14		14	1,25	112150
Data Structures	12		16	18		46	3,5	112180
Operating Systems	12			12		24	2	112270
Introduction to Data Networks	6			20		26	2	112290
Languages and Translators	12		6	6	6	30	2,25	112300
Unit 6-3 Soft Skills						58	4	
Communication			10			10	0,75	111942
Sport					22	22	1	112023
Communication skills and team management			10			10	0,75	112053
General Accounting			16			16	1,5	112230
Unit 6-4 Languages						44	3	
Second language								
-> German			20			20	1	112012
-> Spanish			20			20	1	112013
-> French			20			20	1	112014
English			24			24	2	112011
Remedial English			18			18	0	112961
Placement (minimum one month) during the summer								
Total :						404	30	

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Semester 7

Course	Lec.	LwT	Tut.	Prac.	Project	Student Hours	ECTS Credits	Code
Unit 7-1 - Advanced Statistics						136	10	
Exploratory statistics	20			18		38	2,75	113330
Statistical Modelling	8			10		18	1,25	113350
Operational Research	18		10		12	40	3	113360
Numerical Calculus	12			8		20	1,5	113420
Markov Chains	10		10			20	1,5	113911
Unit 7-2 - Software Engineering						134	11	
Data Networks	6			20		26	2	113370
C and Advanced Systems	12			12		24	2	113380
Object-oriented Programming	18			18		36	2,25	113390
Database Management Systems (DBMS)	16		6	8		30	3	113400
Object oriented Programming Project					18	18	1,75	113921
Unit 7-3 - Soft Skills						98	6	
Work placement debriefing					10	10	0,75	113310
Financial Management	10		10			20	1,5	113340
Management	12		12			24	1,5	113430
Introduction to Research			10			10	0,75	113941
Labour Law	12					12	0,75	113943
Quality - Hygiene - Safety	10					10	0,75	113944
To Succeed in a Job Interview			12			12		114952
Unit 7-4 - Languages						42	3	
Second Language								
-> German			20			20	1	113012
-> Spanish			20			20	1	113013
-> French			20			20	1	113014
English			22			22	2	113011
Remedial English			18			18		113961
Total :						410	30	

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 This course can be offered in English

 The project can be supervised in English



Academic Programme 2018-2019
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Semester 8

Course	Lec.	LwT	Tut.	Prac.	Project	Student Hours	ECTS Credits	Code
Unit 8-1 - Probabilistic Modelling and Random Processes						81	7	
Stochastic Processes	12		10			22	2	114460
Advanced Statistical Modelling	16			12		28	2	114470
Statistics Project					15	15	1,5	114520
Stochastic Processes - Project					16	16	1,5	114821
Unit 8-2 - Software Systems						76	6	
Software Architecture	15			17		32	2	114500
Logic and Semantic Web	10		10	10		30	2,5	114540
Software Architecture Project					14	14	1,5	114921
Unit 8-3 - Information Systems Management						108	7	
Management Control	10		10			20	1,25	114450
Software Engineering	12		12			24	1,5	114530
Information System Project					48	48	3,5	114610
Data Privacy	12					12	0,75	114953
Social and Environmental Responsibility			4			4		114954
Unit 8-4 - Assistant Engineer Placement : Starting in mid-May (6-13 weeks)						95	7	
Assistant Engineer Placement					95	95	7	114640
Unit 8-5 Languages						42	3	
Second Language								
-> German			20			20	1	114012
-> Spanish			20			20	1	114013
-> French			20			20	1	114014
English			22			22	2	114011
Remedial English			18			18	0	114021
Total :						402	30	

Lect. : Lecture

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Academic Programme 2018-2019
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Semester 9

Course	Lec.	LwT	Tut.	Prac.	Project	Student Hours	ECTS Credits	Code
Unit 9-1 - Specialisation courses						90	8	
Distributed Computing Systems	12			10		22	2	115015
Advanced Optimization Methods	12			10		22	2	115017
Time Series	10			14		24	2	115018
Big Data	10			12		22	2	115034
Unit 9-2 - Elective Modules : 4 courses to be chosen from the following list						88	8	
Elective Modules : 4 courses to be chosen from the following list						88	8	115330
-> Financial Engineering	12		10				2	115019
-> Data mining	12			10		22	2	115023
-> 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	12		10			22	2	115032
-> Test	10			12		22	2	115033
Unit 9-3 - Accounting, Management, Communication 3						72	4	
Management Simulation			24			24	1	115020
<i>Cross-Disciplinary modules - 2 courses to be chosen from the following list :*</i>								
-> Eco-Design			24			24	1,5	925510
-> Intercultural Management			24			24	1,5	925511
-> International Corporate Strategy Simulation			24			24	1,5	925518
-> High Tech Innovation Management and Business Intelligence			24			24	1,5	925523
-> Internet of Things			24			24	1,5	925530
-> Management of Industrial Waste			24			24	1,5	925540
-> Renewable Energy			24			24	1,5	925571
-> Collective Intelligence			24			24	1,5	925580
-> Economics, Geopolitics and International Geostrategy			24			24	1,5	925595
-> The Basics of Business Engineering and Trade Negotiation			24			24	1,5	925598
-> Production Management			24			24	1,5	925599
-> Symbolic Computation and Introduction to Scientific Documents with Latex			24			24	1,5	925619

-> Art & Science			24			24	1,5	925639
-> Agent-based Modelling and Simulation			24			24	1,5	925649
-> Stress Management			24			24	1,5	925669
-> Marketing Business to Business			24			24	1,5	925679
-> The Engineer and Design			24			24	1,5	925689
-> Improve your relational efficiency through drama			24			24	1,5	925699
Unit 9-4 - Final-year Project						100	7	
Final-year Project					100	100	7	115100
Unit 9-5 Languages						52	3	
Second Language								
-> German			20			20	0,75	115012
-> Spanish			20			20	0,75	115013
-> French			20			20	0,75	115014
English			20			20	1,75	115011
Remedial English or professional language			12			12	0,5	115841
Total :						402	30	

* The list of cross-disciplinary courses available may be slightly modified each year.


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Academic Programme 2018-2019
Software Engineering and Statistics

Semester 10

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

 The project can be supervised in English

The project can also be carried out during a full semester for a workload of 30 ECTS credits