

Study Programme 2015-2016

Electrical and Computer Engineering

Semester 5

Course	Lec.	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
Unit 5-1 Mathematics Computing 1							122	10	
Analysis 1		50				50	50	4	311110
Structured Programming	12		14	16	6	48	48	4	311130
Database Systems	12			6	6	24	24	2	311140
Unit 5.2 Embedded Systems 1							178	13,5	
Components and Electric Circuits	20		20	24		64	64	4,75	311210
Digital Logic and Microprocessor Design	20		20	12		52	52	4	311220
Automatics : Continuous Linear System Analysis	12		8	8		28	26	2	311230
Electrical Engineering	10		8	9	9	36	36	2,75	311240
Unit 5.3 Soft Skills 1							60	3,5	
Career Planning			10			10	10	0,75	311310
Communication and Project Management	10					10	10	0,75	311320
Economics	12		6			18	18	1,25	311330
Sport			22			22	22	0,75	311340
Unit 5.4 Languages							46	3	
English			26			26	26	2	311410
Second Language									
-> Spanish			20			20	20	1	311421
-> German			20			20	20	1	311422
-> French			20			20	20	1	311423
Remedial English (TOEIC)			14			14	14	0	311430
Total :							406	30	

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Note :
According to the timetable,
the personal work of the student for all the Units of the semester
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* The list of cross-disciplinary modules may change from one academic year to the other.

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Semester 6

Course	Lec.	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
Unit 6.1 Mathematics and Computing 2							150	11,75	
Analysis 2 and Probabilities		40				40	40	3,5	312110
Numerical Analysis		24		18		42	42	3,5	312120
Advanced Programming	22		14	22	10	68	68	4,75	312130
Unit 6.2 Embedded Systems 2							169	13	
Microprocessor Design				9		9	9	0,75	312210
Microprocessor and its Application	10		10	16	12	48	48	3,5	312220
Automatic Control	12		12	16	12	52	52	4	312230
Power Electronics	10		8	9	9	36	36	3	312240
Project					24	24	24	1,75	312250
Unit 6.3 Soft Skills 2							42	2,25	
Communication skills and team management			10			10	10	0,75	312310
Corporate Communication			10			10	10	0,75	312320
Sport			22			22	22	0,75	312330
Unit 6.4 Languages							42	3	
English			22			22	22	2	312410
Second Language									
-> Spanish			20			20	20	1	312421
-> German			20			20	20	1	312422
-> French			20			20	20	1	312423
Remedial English (TOEIC)			18			18	18	0	312430
Industrial placement (4 weeks during the summer)									
Total :							403	30	

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Semester 7

Course	Lec.	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
Unit 7-1 Scientific courses							104	8,25	
Signal Processing		20		12	8	40	40	3,25	313110
Programmable Digital Circuits	10	10	2	12	16	50	50	3,75	313120
Optimisation		14				14	14	1,25	313130
Unit 7-2 Embedded Systems 3							101	7,75	
Communication Networks	20			23		43	43	3,5	313210
System	12			16	8	36	36	2,5	313220
Real Time	10			12		22	22	1,75	313230
Unit 7-3 Electronics-Electrical Engineering-Automatics (EEA)							103	7,25	
Electronics	18		14	16		48	48	3,5	313310
Sensors and discrete event driven systems	14		6	8	2	30	30	2	313320
Speed Variation	8		8	9		25	25	1,75	313330
Unit 7-4 Soft Skills 3							58	3,75	
Work placement debriefing					10	10	10	0,75	313410
Project Management	4					4	4		313420
Management	2		4		24	30	30	2	313430
Marketing	12					12	12	1	313440
Unit 7-5 Languages							40	3	
English			22			22	22	2	313510
Second language									
-> Spanish			20			20	20	1	313521
-> German			20			20	20	1	313522
-> French			20			20	20	1	313523
Remedial English (TOEIC)			18			18	18	0	313530
Total :							408	30	

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Study Programme 2015-2016

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Semester 8

Course	Lec.	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
Unit 8-1 Project and Industrial Placement							50	3	
Project and Initiation to Research					50	50	50	3	314110
Assistant Engineer Placement - starting in May (from 6 to 13 weeks)					70	70	70	7	314210
Unit 8-2 Fundamental courses (1 option to be chosen)							120	8.5	
Option 1 : Smart Communicating Systems									
Multimedia Transmission	26			24		50	50	3.5	314311
Advanced Programmable Digital Circuits	8			12	4	24	24	1.5	314312
Transmission support	20		10	16		46	46	3.5	314313
Option 2 : Autonomous Embedded Systems									
Automotive Embedded Systems and Energy Management	16		12	15		43	43	3	314321
Transfer and Storage of Energy for Autonomous Systems	12		12	8		32	32	2.25	314322
Automated Systems Engineering	18		12	18		48	48	3.25	314323
UE 8-3 Specialized courses (1 option to be chosen)							120	8.5	
Option 1 : Smart Communicating Systems									
Encoding	14		8	14		36	36	2.5	314411
Software Design	14			10		24	24	1.5	314412
Computer fundamentals	10		6		6	22	22	1.5	314413
Systems and Networking	16				24	40	40	3	314414
Option 2 : Autonomous Embedded Systems									
Intelligent Instrument and Image Processing	10			10		20	20	1.5	314421
Tools for Design of Autonomous Systems	22			22		44	44	3	314422
Robotics	12		6	32	4	54	54	4	314423
UE 8-4 Languages							40	3	
English			20			20	20	2	314510
Spanish			20			20	20	1	314521
German			20			20	20	1	314522
French			20			20	20	1	314523
Unit 8-4 Languages							40	3	
English			22			22	22	2	314510
Second language			20			20	20	1	314520
-> Spanish			20			20	20	1	314521
-> German			20			20	20	1	314522
-> French			20			20	20	1	314523
Remedial English (TOEIC)			18			18	18	0	314530
Total :							332	30	

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Semester 9

Course	Lec.	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
Unit 9-1 Final year project							70	6	
Final year project					70	70	70	6	315110
Unit 9-2 specialized courses							176	14	
Smart Communicating Systems (Option 1)									
Design and Smart System Integration	18		10	16		44	44	3.5	315211
Systems Sizing and Radio Frequency Identification (RFID)	18		10	16		44	44	3.5	315212
Software Design	12			10		22	22	1.75	315213
Advanced Networking Protocols	4			18		22	22	1.75	315214
Human-Machine Interface and Gestural Interface	10			12		22	22	1.75	315215
System and Network Administration	22					22	22	1.75	315216
Autonomous Embedded Systems (Option 2)									
Industrial applications	48					48	48	3.75	315221
Safe Systems	16		16	16		48	48	3.75	315222
Intelligent Instrumentation	12					12	12	1	315223
Design and Eco-Design of Electrical Systems	12		12			24	24	2	315224
Grid Integration of Renewable Energy Sources	8		4	8		20	20	1.5	315225
Energy Management of Hybrid Electrical Vehicles	12		12			24	24	2	315226
Unit 9-3 Soft Skills 4							116	7	
Management			24			24	24	1,5	315310
Quality	10					10	10	0,75	315320
Labour Law	12					12	12	0,75	315330
Project Management and Corporate Social Responsibilities	4				10	14	14	1	315340
Preparing for a job interview									315350
Cross-Disciplinary modules : 2 courses to be chosen *							50	3	
-> Life Cycle Assessment (LCA) and Eco-Design	8			16		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 ergonomy)	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 Languages 5							52	3	
English			20			20	20	1,75	315410
Second language			20			20	20		
-> Spanish			20			20	20	0,75	315421
-> German			20			20	20	0,75	315422
-> French			20			20	20	0,75	315423
-> Remedial English (Toeic) or professional language			12			12	12	0,5	315430
Total :							414	30	

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Semester 10

Course	Lec.	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
Final Year Project 2							100	6	
								6	316110
Engineer Placement : 5-6 months starting in February							300	24	
								22	316210
Total :							400	30	

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